

December 12, 2018



Standard Lithium Makes First Pilot-Scale High Purity Lithium Carbonate and Commissions Crystallisation Pilot Prototype

VANCOUVER, British Columbia, Dec. 12, 2018 (GLOBE NEWSWIRE) -- **Standard Lithium Ltd.** ("Standard Lithium" or the "Company") (TSXV: SLL) (OTC-Nasdaq Intl. Designation: STLHF) (FRA: S5L), is pleased to announce that the Company has completed the commissioning process for its prototype crystallisation pilot plant and has produced its first quantity of high purity (>99.1%) lithium carbonate.

The Company, via its technology partners, is currently designing and fabricating both halves of its full-scale Pilot Plant; the Lithium Extraction Pilot Plant is being designed and built by Zeton Inc. in Burlington, Ontario, Canada; the Lithium Carbonate Crystallisation Pilot Plant is being designed and built by Saltworks Technologies Inc., at their facility in Richmond, British Columbia, Canada. Both parts of the Pilot Plant are based on Standard Lithium's proprietary technology.

The newly-constructed crystallisation pilot prototype was operated using a relatively 'impure' feed solution similar to, but less pure than that produced by the Company's Lithium Extraction Process (as per ongoing testing at the Company's mini-pilot plant in Ontario). The feed solution contained approximately 4,500 mg/L lithium; 5,000 mg/L sodium (at least one order of magnitude higher than that produced by the Company's Lithium Extraction Process); over 400 mg/L of other alkali, alkaline earth and transition metal contaminants; and over 900 mg/L of other non-metallic anionic contaminants. After setting up and completing initial commissioning work for approximately 2 weeks, the prototype pilot circuit was operated, whilst monitoring crystallisation progress using high-speed, multi-image photo-microscopy and artificial intelligence computer image recognition for crystal size and shape. After rudimentary washing of the resulting crystallised solids, analysis confirmed that the purity of the product exceeded >99.1% lithium carbonate. The prototype pilot plant is now undergoing routine optimisation to adjust several key operating parameters. In addition, the number of crystallisation cycles that have been operated will be increased, and additional product washing technology will be introduced to enable further process optimisation and improved product purity. The technical team will also be adjusting the composition of the input feed stream so as to optimise how the two parts of Standard Lithium's proprietary technologies work together.

Dr. Andy Robinson, President and COO of Standard Lithium commented, *"We have all been very pleasantly surprised by these highly positive results from our prototype pilot, established so quickly after starting up the equipment. Standard's technical team and our partners at Saltworks are now going through the rigorous process of optimising the operation of the equipment and adding additional process cycles and washing technology so that we can*

improve the purity of the final lithium carbonate product even further. They are also gathering key data to allow us to commence the design for the larger scale crystallisation pilot plant that will be deployed to our project site in southern Arkansas, USA.”

The Company also announces that its board of directors has approved the adoption of a new incentive stock option plan which reserves a maximum option pool of 14,705,515 options. The new plan will better align with the Company’s compensation objectives and will provide a more flexible mechanism for incentivizing management, employees and consultants of the Company.

The new plan will be presented to shareholders of the Company for ratification at the upcoming annual general and special meeting to be held on December 19, 2018. Following ratification, final adoption of the plan will be subject to the approval of the TSX Venture Exchange. Following adoption, all existing incentive stock options of the Company will be governed by the new plan. Further details regarding the new plan, including a copy of the plan, are set out in the management information circular of the Company that will be delivered to shareholders in respect of the annual general and special meeting. A copy of the management information circular is also available under the Company’s profile on SEDAR.

Quality Assurance

Dr. Ron Molnar, Professional Metallurgical Engineer (Ontario P.E.# 100111288), is a qualified person as defined by NI 43-101, and has reviewed and approved the scientific and technical information that forms the basis for this news release. Dr. Molnar is independent of the Company.

About Standard Lithium Ltd.

The Company’s flagship project is located in southern Arkansas, where it is engaged in the testing and proving of the commercial viability of lithium extraction from over 150,000 acres of permitted brine operations utilising the Company’s proprietary selective extraction technology. The Company is also pursuing the resource development of over 30,000 acres of separate brine leases located in southwestern Arkansas and approximately 45,000 acres of mineral leases located in the Mojave Desert in San Bernardino County, California.

Standard Lithium is listed on the TSX Venture Exchange under the trading symbol “SLL”; quoted on the OTC – Nasdaq International Designation: STLHF; and on the Frankfurt Stock Exchange under the symbol “S5L”. Please visit the Company’s website at www.standardlithium.com.

On behalf of the Board,

Standard Lithium Ltd.

Robert Mintak, CEO & Director

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Source: Standard Lithium Ltd.